

MULTIMEDIA COMMUNICATIONS (5 ECTS, S2 93001370):

1 Introduction and case studies.

2 Information capture, digital representation (voice, audio, images and traditional, immersive and volumetric video), content adaptation.

3 Compression, human perception, statistical and perceptual redundancy, lossy and lossless source coding (voice, audio, images, traditional, immersive and volumetric video). Bit rate, distortion and latency.

4 Transport, transmission media, media adaptation, constant, variable and adaptive bit rates. 'Push' and 'pull' distribution (DASH). Streaming strategies and latency analysis (e2e, m2p).

5 Information presentation and visualisation, including new formats.
Service virtualisation and edge computing.

6 Evaluation, quality of service (QoS) and quality of experience (QoE), interactivity, immersion and presence.

7 Applications: streaming, extended reality (virtual, mixed, immersive), information systems, navigation, messaging, social media, indexing and search, video games. 8 Practical work (assessed via EP: practical exam 30–35%)